

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A universal serial bus (USB) remote host control driver, comprising:
~~a connection to port for connecting to a network, said network further connecting to said port~~
~~configured to couple over said network one or more USB device adapters, each of said~~
~~device adapters having a discrete network address, to said remote host control driver;~~
~~a network protocol stack, said protocol stack for encapsulating USB packets in network~~
~~packets and for decapsulating USB packets from network packets; and~~
~~a memory for simultaneously storing the discrete network address(es) and a corresponding~~
~~identifier of each USB device connected via a respective of each of said device adapters~~
~~and for storing an identification of each USB device adapter to the driver connected to~~
~~each of said device adapters.~~
2. (Currently Amended) The USB remote host control driver of claim 1, further comprising:
a polling routine, said polling routine ~~configured to contact~~ ~~contacting~~ each of said device
adapters, ~~identify identifying~~ ~~identify~~ each of said USB devices, and ~~store~~ ~~storing~~ the
identifications in said memory.
3. (Original) The USB host control driver of claim 1, where the network packets are Ethernet
packets.
4. (Currently Amended) A universal serial bus (USB) device adapter comprising:

one or more USB ports, said one or more USB ports configured for connection to a network having a USB remote host control driver having a memory for simultaneously storing a network address of each of one or more device adapters and a corresponding identification of each USB device connected via the respective one or more device adapters;

~~a connection to a network, said network connected to a USB remote host control driver;~~

a memory for storing an assigned network address;

a network protocol stack, said protocol stack for encapsulating USB packets in network packets and for decapsulating USB packets from network packets; and

a bridging task for receiving USB packets from one or more USB devices coupled to the respective device adapters and for passing USB device addressing information and said USB packets and addressing information to said network protocol stack.

5. (Original) The USB host control driver of claim 4, where the network packets are Ethernet packets.
6. (Currently Amended) An Internet gateway, comprising:
 - a port for connecting connection to the Internet; and
 - a universal serial bus (USB) remote host control driver, said USB remote host control driver having:
 - (a) a port for connecting connection to a local network, said local network further connecting to said port configured to couple over said network one or more USB

device adapters, each of said device adapters having a discrete network address, to
said remote host control driver;

- (b) a local network protocol stack, said protocol stack for encapsulating USB packets in local network packets and for decapsulating USB packets from local network packets;
- (c) a memory for simultaneously storing the discrete network address(es) and a
corresponding identifier of each USB device connected via a respective ~~of each of~~
~~said device adapters and for storing an identification of each USB device~~ adapter ~~to~~
~~the driver connected to each of said device adapters~~; and
- (d) a polling routine, said polling routine for contacting each of said device adapters, identifying each of said USB devices, and storing the identifications in said memory.

7. (Original) The Internet gateway of claim 6, where the local network is an Ethernet.

8. (Currently Amended) The Internet gateway of claim 6, further ~~comprising~~: comprising a processor, ~~said processor~~ configured to receive ~~for receiving~~ unencapsulated USB packets from the protocol stack.

9. (Currently Amended) The Internet gateway of claim 8, further comprising:
a ~~connection~~ means for connecting to a local video monitor.

10. (Currently Amended) The Internet gateway of claim 8, further comprising:
a ~~connection~~ means for connecting to a local telephone.

11. (Currently Amended) The Internet gateway of claim 8, further comprising:
a connection means for connecting to a public television cable.
12. (Currently Amended) The Internet gateway of claim 8, further comprising:
a connection means for connecting to a public telephone network.
13. (Withdrawn) A method for providing a signal from a USB device over a local network to a local processor, the method comprising:
generating a USB packet at the USB device;
encapsulating the USB packet in one or more network packets;
transmitting the network packets over the network;
decapsulating the USB packet from the network packets; and
providing the USB packet to the processor.
14. (Withdrawn) The method of claim 13, wherein the local network is an Ethernet.
15. (Withdrawn) The method of claim 13, wherein the USB device is a keyboard.
16. (Withdrawn) A method for establishing a connection between a local processor and a USB device over a local network, the method comprising:
configuring a USB device adapter candidate list, said list including the network address of at least one USB device adapter;

polling an address on the candidate list, said polling including encapsulating a USB packet in one or more network packets; receiving a positive response from a USB device adapter to said polling, said receiving including decapsulating a USB packet from one or more network packets; and adding the address and a USB device adapter identifier to a master list.

17. (Withdrawn) The method of claim 16, further comprising:

polling a port on a USB adapter device on the master list, said polling including encapsulating a USB packet in one or more network packets; receiving a positive response from a USB device connected to said port, said receiving including decapsulating a USB packet from one or more network packets; and enumerating a USB device in the operating system of the processor.

18. (Withdrawn) A method for providing a signal from a USB device to a processor on the Internet, the method comprising:

generating a USB packet at the USB device; encapsulating the USB packet in one or more local network packets; transmitting the local network packets over a local network; decapsulating the USB packet from the local network packets; encapsulating the USB packet in one or more IP packets; transmitting the IP packets over the Internet; and providing the IP packets to the processor.

19. (Withdrawn) An apparatus for providing a signal from a USB device over a local network to a local processor, comprising:

means for generating a USB packet at the USB device;

means for encapsulating the USB packet in one or more network packets;

means for transmitting the network packets over the network;

means for decapsulating the USB packet from the network packets; and

means for providing the USB packet to the processor.

20. (Withdrawn) The apparatus of claim 19, wherein the local network is an Ethernet.

21. (Withdrawn) The apparatus of claim 19, wherein the USB device is a keyboard.

22. (Withdrawn) An apparatus for establishing a connection between a local processor and a USB device over a local network, comprising:

means for configuring a USB device adapter candidate list, said list including the network address of at least one USB device adapter;

means for polling an address on the candidate list, said means for polling including means for encapsulating a USB packet in one or more network packets;

means for receiving a positive response from a USB device adapter to said polling, said means for receiving including means for decapsulating a USB packet from one or more network packets; and

means for adding the address and a USB device adapter identifier to a master list.

23. (Withdrawn) The apparatus of claim 22, further comprising:

means for polling a port on a USB adapter device on the master list, said means for polling including means for encapsulating a USB packet in one or more network packets; means for receiving a positive response from a USB device connected to said port, said means for receiving including means for decapsulating a USB packet from one or more network packets; and means for enumerating a USB device in the operating system of the processor.

24. (Withdrawn) An apparatus for providing a signal from a USB device to a processor on the Internet, comprising:

means for generating a USB packet at the USB device; means for encapsulating the USB packet in one or more local network packets; means for transmitting the local network packets over a local network; means for decapsulating the USB packet from the local network packets; means for encapsulating the USB packet in one or more IP packets; means for transmitting the IP packets over the Internet; and means for providing the IP packets to the processor.

25. (Withdrawn) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for providing a signal from a USB device over a local network to a local processor, the method comprising:

generating a USB packet at the USB device; encapsulating the USB packet in one or more network packets;

transmitting the network packets over the network;
decapsulating the USB packet from the network packets; and
providing the USB packet to the processor.

26. (Withdrawn) The device of claim 25, wherein the local network is an Ethernet.
27. (Withdrawn) The device of claim 25, wherein the USB device is a keyboard.
28. (Withdrawn) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for establishing a connection between a local processor and a USB device over a local network, the method comprising:
configuring a USB device adapter candidate list, said list including the network address of at least one USB device adapter;
polling an address on the candidate list, said polling including encapsulating a USB packet in one or more network packets;
receiving a positive response from a USB device adapter to said polling, said receiving including decapsulating a USB packet from one or more network packets; and
adding the address and a USB device adapter identifier to a master list.
29. (Withdrawn) The device of claim 28, wherein the method further comprising:
polling a port on a USB adapter device on the master list, said polling including encapsulating a USB packet in one or more network packets;

receiving a positive response from a USB device connected to said port, said receiving including decapsulating a USB packet from one or more network packets; and enumerating a USB device in the operating system of the processor.

30. (Withdrawn) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for providing a signal from a USB device to a processor on the Internet, the method comprising:

generating a USB packet at the USB device;

encapsulating the USB packet in one or more local network packets;

transmitting the local network packets over a local network;

decapsulating the USB packet from the local network packets;

encapsulating the USB packet in one or more IP packets;

transmitting the IP packets over the Internet; and

providing the IP packets to the processor.

31. (Currently Amended) A serial data bus remote host control driver, comprising:

a connection to port for connecting to a network, said network further connecting to said port

configured to couple over said network one or more serial data bus device adapters, each of said device adapters having a discrete network address to said remote host

control driver;

a network protocol stack, said protocol stack for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from network packets;

and

a memory for simultaneously storing the discrete network address(es) and a corresponding identifier of each serial data bus device connected via a respective of each of said device adapters and for storing an identification of each serial data bus device adapter to the driver connected to each of said device adapters.

32. (Currently Amended) The serial data bus remote host control driver of claim 31, further comprising a polling routine, said polling routine configured to contact contacting each of said device adapters, identify identifying each of said serial data bus devices, and store storing the identifications in said memory.

33. (Previously Presented) The serial data bus host control driver of claim 31, where the network packets are Ethernet packets.

34. (Currently Amended) A serial data bus device adapter comprising:
one or more serial data bus ports, said one or more serial data bus ports configured for connection to a network having a serial data bus remote host control driver having a memory for simultaneously storing a network address of each of one or more device adapters and a corresponding identification of each serial data bus device connected via the respective one or more device adapters;
a connection to a network, said network connected to a serial data bus remote host control driver;
a memory for storing an assigned network address;

a network protocol stack, said protocol stack for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from network packets; and

a bridging task for receiving serial data bus packets from one or more serial data bus devices coupled to the respective device adapters and for passing serial data bus device addressing information and said serial data bus packets and addressing information to said network protocol stack.

35. (Previously Presented) The serial data bus host control driver of claim 34, where the network packets are Ethernet packets.

36. (Currently Amended) An Internet gateway, comprising:
a port for connecting connection to the Internet; and
a serial data bus remote host control driver, said serial data bus remote host control driver having:

(a) a port for connecting connection to a local network, said local network further connecting to said port configured to couple over said local network one or more serial data bus device adapters, each of said device adapters having a discrete network address, to said remote host control driver;

(b) a local network protocol stack, said protocol stack for encapsulating serial data bus packets in local network packets and for decapsulating serial data bus packets from local network packets;

- (c) a memory for simultaneously storing the discrete network address(es) and a corresponding identifier of each serial data bus device connected via a respective of each of said device adapters and for storing an identification of each serial data bus device adapter to the driver connected to each of said device adapters; and
- (d) a polling routine, said polling routine for contacting each of said device adapters, identifying each of said serial data bus devices, and storing the identifications in said memory.

37. (Previously Presented) The Internet gateway of claim 36, where the local network is an Ethernet.

38. (Currently Amended) The Internet gateway of claim 36, further comprising a processor, said processor configured to receive ~~for receiving~~ unencapsulated serial data bus packets from the protocol stack.

39. (Currently Amended) The Internet gateway of claim 38, further comprising a connection means for connecting to a local video monitor.

40. (Currently Amended) The Internet gateway of claim 38, further comprising a connection means for connecting to a local telephone.

41. (Currently Amended) The Internet gateway of claim 38, further comprising a connection means for connecting to a public television cable.

42. (Currently Amended) The Internet gateway of claim 38, further comprising a ~~connection~~
means for connecting to a public telephone network.

43. (New) A universal serial bus (USB) remote host control driver, comprising:
means for connecting to a network, said network further connecting to one or more USB
device adapters, each of said device adapters having a discrete network address, to said
remote host control driver;
means for encapsulating USB packets in network packets and for decapsulating USB packets
from network packets; and
means for simultaneously storing the discrete network address(es) and a corresponding
identifier of each USB device connected via a respective USB device adapter to the
driver.

44. (New) A universal serial bus (USB) device adapter comprising:
one or more USB ports;
means for connecting to a network, said network connected to a USB remote host control
driver comprising a memory for simultaneously storing a network address of each of
one or more device adapters and a corresponding identification of each USB device
connected via the respective one or more device adapters;
means for storing an assigned network address;
means for encapsulating USB packets in network packets and for decapsulating USB packets
from network packets; and

means for receiving USB packets from one or more USB devices coupled to the respective device adapters and for passing USB device addressing information and said USB packets to said means for encapsulating.

45. (New) An Internet gateway, comprising:

means for connecting to the Internet; and

a universal serial bus (USB) remote host control driver, said USB remote host control driver having:

- (a) means for connecting to a local network, said local network further connecting to one or more USB device adapters, each of said device adapters having a discrete network address, to said remote host control driver;
- (b) means for encapsulating USB packets in local network packets and for decapsulating USB packets from local network packets;
- (c) means for simultaneously storing the discrete network address(es) and a corresponding identifier of each USB device connected via a respective USB device adapter to the driver; and
- (d) polling means for contacting each of said device adapters, identifying each of said USB devices, and storing the identifications in said means for storing.

46. (New) A serial data bus remote host control driver, comprising:

means for connecting to a network, said network further connecting to one or more serial data bus device adapters, each of said device adapters having a discrete network address, to said remote host control driver;

means for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from network packets; and means for simultaneously storing the discrete network address(es) and a corresponding identifier of each serial data bus device connected via a respective serial data bus device adapter to the driver.

47. (New) A serial data bus device adapter comprising:

one or more serial data bus ports, said one or more serial data bus ports configured for connection to a network having a serial data bus remote host control driver having a memory for simultaneously storing a network address of each of one or more device adapters and a corresponding identification of each serial data bus device connected via the respective one or more device adapters;

means for storing an assigned network address;

means for encapsulating serial data bus packets in network packets and for decapsulating serial data bus packets from network packets; and

means for receiving serial data bus packets from one or more serial data bus devices coupled to the respective device adapters and for passing serial data bus device addressing information and said serial data bus packets to said means for encapsulating.

48. (New) An Internet gateway, comprising:

means for connecting to the Internet; and

a serial data bus remote host control driver, said serial data bus remote host control driver having:

- (a) means for connecting to a local network, said local network further connecting to one or more serial data bus device adapters, each of said device adapters having a discrete network address, to said remote host control driver;
- (b) means for encapsulating serial data bus packets in local network packets and for decapsulating serial data bus packets from local network packets;
- (c) means for simultaneously storing the discrete network address(es) and a corresponding identifier of each serial data bus device connected via a respective serial data bus device adapter to the driver; and
- (d) polling means for contacting each of said device adapters, identifying each of said serial data bus devices, and storing the identifications in said memory.